

## CLAIMS

1. Process for the production of smoke adapted for smoking foodstuffs, said smoke being obtained by pyrolysis  
5 of an organic material, preferably vegetable, characterized in that it comprises essentially the steps consisting in:

- introducing said organic material to be pyrolyzed into a pyrolysis reactor comprising essentially a heatable chamber substantially sealed, containing at least one  
10 ascending tubular element that is vibrated and receiving said organic material, said material being introduced at the level of the lower portion of said tubular element,

- heating said organic material by direct heating of the tubular element or elements, preferably by electrical  
15 heating by the Joule effect, in said chamber at a temperature comprised between 200°C and 800°C, preferably between 300°C and 400°C, so as to produce pyrolysis during its movement, under the effect of vibrations, in the ascending tubular element or elements, and

- extracting the consumed organic material and the  
20 produced smoke at the level of the upper portion of said tubular element or elements.

2. Process according to claim 1, characterized in  
25 that the tubular element or elements are given a vibratory movement having a horizontal and/or vertical component.

3. Process according to claim 1 or 2, characterized in that the organic material is dried by preheating before  
30 it being pyrolyzed, preferably in at least one specific preheating zone provided in the tubular element or elements

and more preferably by electrical heating of said zone or zones by the Joule effect.

4. Process according to any one of claims 1 to 3,  
5 characterized in that the smoke produced is condensed at the outlet of the reactor in a suitable condensation device.

5. Process according to any one of claims 1 to 4,  
10 characterized in that at least one portion of the pyrolysis gas present at the outlet of the condensation device is re-injected into the reactor.

6. Process according to any one of claims 1 to 5,  
15 characterized in that pyrolysis takes place under strict control, to about 0.1%, of the volume content of oxygen in said reactor.

7. Process according to any one of claims 1 to 6,  
20 characterized in that pyrolysis takes place under precise control, to about one degree Celcius, of the temperature prevailing in said reactor.

8. Process according to any one of claims 1 to 7,  
25 characterized in that the pyrolyzed organic material is essentially constituted by woodchips, in particular wood suitable for flavoring or aging of wine and/or spirits.

9. Process according to any one of claims 1 to 7,  
30 characterized in that the pyrolyzed organic material is essentially constituted by fibers or chips of at least one

vegetable substance such as wood, cellulose, any other polysaccharide or complex ligno-cellulose.

10. The use of a vibrated elevating reactor for the  
5 practice of the process according to the invention of  
claims 1 to 9, of the type comprising essentially a  
heatable chamber substantially sealed, containing at least  
one ascending tubular element that is vibrated and  
receiving an organic material to be pyrolyzed, for the  
10 production of smoke adapted for smoking foodstuffs.

11. Use according to claim 10, for the production of  
liquid smoke.

15 12. Use according to claim 10, for the production of  
wood charcoal.

13. Smoke adapted for smoking foodstuffs obtained by  
the process according to any one of claims 1 to 9,  
20 characterized in that it has, once condensed into liquid  
smoke, a volume content of benzo[a]pyrene of at most 10 ppb  
and a volume content of benzoanthracene of at most 20 ppb.

14. Liquid smoke obtained by condensation of smoke  
25 according to claim 13.

15. Foodstuff smoked by the use of smoke according to  
claim 13 and/or a liquid smoke according to claim 14.

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